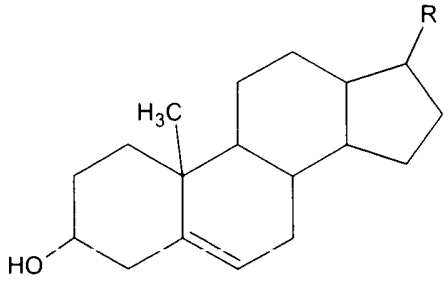
Atty Docket: 4010/9

IN THE CLAIMS:

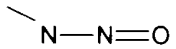
1. A nitric oxide releasing compound comprising:

a lipid molecule selected from (a) phosphoglycerides, (b) lipids having a sphingosine base as a backbone, (c) monoacylglyerols, (d) diacylglycerols, (e) glycosylacylglycerols, and (f) sterol compounds of the formula:



where R is a branched aliphatic chain of eight or more carbon atoms,

said lipid molecule provided with a nitric-oxide containing group which comprises (a) a —S—N=O moiety, (b) a —O—N=O moiety, or (c) a



moiety.

2. The compound of claim 1, wherein the lipid molecule is said lipid having a sphingosine base as a backbone.

3. The compound of claim 2, wherein the lipid having a sphingosine base as a backbone is N,N,N-trimethylsphingosine.

4. The compound of claim 2, wherein the lipid having a sphingosine base as a backbone is a sphingolipid.

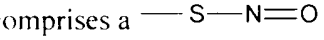
5. The compound of claim 4, wherein the sphingolipid is a ganglioside.

6. The compound of claim 1, wherein the lipid molecule is said phosphoglyceride.

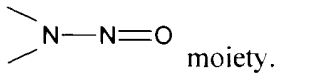
7. The compound of claim 6, wherein the phosphoglyceride is phosphatidylinositol or phosphatidylcholine.

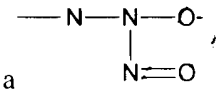
8. The compound of claim 1, wherein the lipid molecule is said sterol compound.

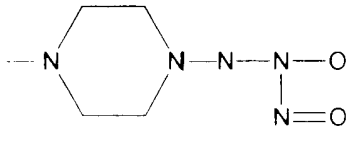
9. The compound of claim 8, wherein said sterol compound is cholesterol.

10. The compound of claim 1, wherein said nitric-oxide containing group comprises a  moiety.

11. The compound of claim 1, wherein said nitric-oxide containing group comprises a moiety.

12. The compound of claim 1, wherein said nitric-oxide containing group comprises a  moiety.

13. The compound of claim 12, wherein said nitric-oxide containing group comprises a  moiety.

14. The compound of claim 13, wherein said nitric-oxide containing group comprises a  moiety.

15. A pharmaceutical composition comprising at least 0.001 wt% of the compound of claim 1.

16. A pharmaceutical composition comprising at least 0.01 wt% of the compound of claim 1.

17. A pharmaceutical composition comprising at least 0.1 wt% of the compound of claim 1.

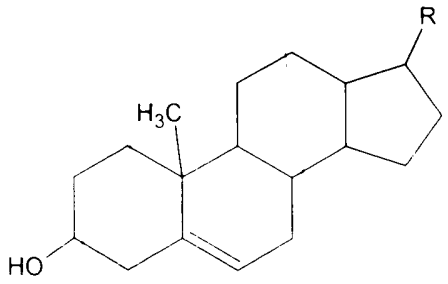
18. A pharmaceutical composition comprising at least 1 wt% of the compound of claim 1.

19. A pharmaceutical composition comprising at least 10 wt% of the compound of claim 1.

20. A pharmaceutical composition comprising at least 90 wt% of the compound of claim 1.

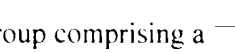
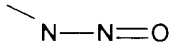
21. A method of forming a nitric oxide releasing lipid molecule comprising:

providing a lipid molecule having a nucleophilic moiety selected from a thiol moiety, an amine moiety and an alcohol moiety, said lipid molecule selected from (a) phosphoglycerides, (b) lipids having a sphingosine base as a backbone, (c) monoacylglyerols, (d) diacylglycerols, (e) glycosylacylglycerols, and (f) sterol compounds of the formula:



where R is a branched aliphatic chain of eight or more carbon atoms; and

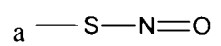
supplying said lipid molecule with a nitric-oxide containing group at a position corresponding to said nucleophilic moiety, said nitric-oxide containing

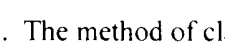
group comprising a  moiety, a moiety, or a  moiety.

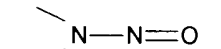
22. The method of claim 21, wherein the lipid molecule is said lipid having a sphingosine base as a backbone.

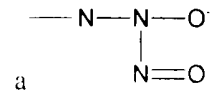
23. The method of claim 21, wherein the lipid molecule is said phosphoglyceride.

24. The method of claim 21, wherein the lipid molecule is said sterol compound.

25. The method of claim 21, wherein said nitric-oxide containing group comprises a  moiety.

26. The method of claim 21, wherein said nitric-oxide containing group comprises a  moiety.

27. The method of claim 21, wherein said nitric-oxide containing group comprises a  moiety.

28. The method of claim 28, wherein said nitric-oxide containing group comprises a  moiety.

29. The method of claim 21, wherein an alcohol moiety on said lipid molecule is converted to a group comprising a thiol moiety prior to supplying said lipid molecule with said nitric-oxide containing group.

30. The method of claim 29, wherein an —S—N=O moiety is formed on said lipid molecule at a position corresponding to said thiol moiety.

31. A topical liquid comprising the compound of claim 1.

32. A topical liquid selected from the group consisting of a solution, a dispersion, a spray, a lotion, a gel, a cream and an ointment, said topical liquid comprising the compound of claim 1.

33. A drug delivery system comprising a medical article and the compound of claim 1.

34. The drug delivery system of claim 33, wherein the medical article is a bandage or a patch.

35. The drug delivery system of claim 33, wherein the medical article is an intravascular medical device.

36. The drug delivery system of claim 35, wherein the intravascular medical device is selected from a balloon catheter, an injection catheter, an infusion catheter, a stent, a stent graft, and a distal protection device.

37. The drug delivery system of claim 33, wherein the compound of claim 1 is provided within a polymer matrix.

38. The drug delivery system of claim 37, wherein the matrix is a biocompatible matrix selected from a stable polymer matrix and a biodegradable polymer matrix.

39. The drug delivery system of claim 33, wherein the compound of claim 1 is dissolved or dispersed in a solution.

40. The drug delivery system of claim 33, wherein the compound of claim 1 is adsorbed on a tissue-contacting surface of said medical article.

41. The drug delivery system of claim 33,wherein the compound of claim 1 is provided within a micelle or a liposome.

42. The drug delivery system of claim 33, further comprising a therapeutically effective amount of an auxiliary therapeutic agent selected from agents having antineoplastic activity, agents having antiproliferative activity, and agents having both antineoplastic and antiproliferative activity.

43. A method for therapeutically administering nitric oxide to a patient comprising administering the compound of claim 1 to said patient.

44. The method of claim 43, wherein the compound administered topically.

45. The method of claim 43, wherein the compound is administered within the body.

46. The method of claim 45, wherein the compound is administered by implantation.

47. The method of claim 45, wherein the compound is administered by an intravascular delivery device.

48. The method of claim 47, wherein the intravascular delivery device is selected from a balloon catheter, an injection catheter, an infusion catheter, a stent, a stent graft, and a distal protection device.

49. The method of claim 45, wherein the compound of claim 1 is administered by direct injection.

50. A method of treating or preventing a condition selected from atherosclerosis and myocardial infarction in a patient, said method comprising administering to said patient an amount of the compound of claim 1 effective to treat or prevent said condition.

51. A method of treating or preventing restenosis in a patient, said method comprising administering to said patient an amount of the compound of claim 1 effective to treat or prevent said restenosis.

52. A method of treating or preventing a condition selected from peripheral vascular disease, stroke, impotence, septic shock and arthritis in a patient, said method comprising administering to said patient an amount of the compound of claim 1 effective to treat or prevent said condition.

53. A method of treating or preventing a condition selected from cancer and bacterial infection in a patient, said method comprising administering to said patient an amount of the compound of claim 1 effective to treat or prevent said condition.

54. A method of treating or preventing a condition selected from one or more of impetigo, epidermolysis bullosa, eczema, neurodermatitis, psoriasis, pruritis, erythema, hidradenitis suppurativa, warts, diaper rash and jock itch in a

patient, said method comprising administering to said patient an amount of the compound of claim 1 effective to treat or prevent said condition.

55. A method of promoting wound healing in a patient, said method comprising administering to said patient an amount of the compound of claim 1 effective to promote said wound healing.

56. A method of reducing cells present in an atherosclerotic lesion in a patient, said method comprising administering to said patient an amount of the compound of claim 1 effective to reduce the cells present in said atherosclerotic lesion.

~~57. A liposome comprising the compound of claim 1.~~